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For
ADDITIONAL REPLY COMMENTS
Of
DONALD J. SCHELLHARDT, ESQUIRE
And
NICKOLAUS E. LEGGETT
In
FCC DOCKET RM-10330

December 21, 2001

Before the

FEDERAL COMMUNICATIONS COMMISSION
Washington, DC. 20554

In the Matter of		
	)	
	)	
Amendment of the Commission's	)	
Rules to Shield Electronics	)	
Equipment Against Acts of War	)	**RM-10330**
Or Terrorism Involving Hostile	)	
Use of Electromagnetic Pulse	)	
(EMP)	)	

To: The Commission

ADDITIONAL REPLY COMMENTS
of Donald J. Schellhardt, Esquire and Nickolaus E. Leggett

The following are the second set of reply comments from Nickolaus E. Leggett and Donald J. Schellhardt, Esquire. Leggett and Schellhardt are the petitioners in RM-10330, which requests regulations for the protection of civilian communications equipment from electromagnetic pulse (EMP). These Reply Comments are filed in addition to our November 30, 2001 Reply Comments, responding to Written Comments from REC Networks.

This second set of Reply Comments addresses those Written Comments which were posted in this Docket, by the Commission's Electronic Comments Filing System (ECFS): (a) after the comments filed by REC; and (b) on or before the Written Comments deadline of December 14, 2001.

Additional Written Comments were filed after the deadline by 5 different parties, including SBC Communications and Verizon. We reserve the right to address these late-filed Written Comments in a third set of Reply Comments, to be submitted on or before the Reply Comments deadline.

In our Reply Comments below, we begin with some general comments relating to concerns raised by more than one commenting party. After that relatively general discussion, we respond in a point-by-point format to each individual commenting party, with the commentor's specific comments followed by our responses.

GENERAL RESPONSES TO POINTS RAISED BY COMMENTORS

Advisability of A Comment Deadline Extension

The Written Comments deadline in this Docket expired on December 14, 2001. However, we request the Commission to extend the Written Comments period by one additional month -- that is, to the current Reply Comments deadline of January 14, 2002. As a "conforming change", we ask the Commission to extend the current Reply Comments deadline by 30 days -- to February 13, 2002.

We regard EMP shielding as an urgent matter, requiring the initiation of regulatory action at the earliest reasonable date. For this reason, we have been reluctant to recommend an extension of the public comment period in this Docket. Nevertheless, we believe there are compelling reasons to add another month to the public input time frame.

(1) The last minute surge of late-filed Written Comments suggests there are more people Out There with something to say. As we noted earlier, 5 commenting parties -- including SBC Communications and Verizon -- filed Written Comments after the official Written Comments deadline of January 14, 2002. (This count of 5 does *not* include *re-filed* Written Comments by Dr. William Radasky, of the International Electrotechnical Commission, whose first electronic filing was garbled by the ECFS.)

While there may have been other factors at work, we suspect that some or all of these 5 Written Comments were filed late because our proposed rule in RM-10330 did not

become visible in certain interested circles until the end of the Written Comments period. Now that RM-10330 is becoming known within groups as diversified as the ARRL, REACT and companies represented on NSTAC, we expect there are other parties who would file Written Comments if the deadline were extended to mid-January.

If a deadline extension is *not* granted, the Commission will find itself on the horns of a dilemma. Should the Commission "follow the rules" and refuse to consider Written Comments that were filed (for the first time) after December 14, it will be denying itself access to information and perspectives that could be important -- or even crucial. On the other hand, if the Commission waives its normally applicable rules and allows consideration of late-filed Written Comments, it will effectively punish those potential commentors who *might have filed* but did not do so -- because they chose to "play by the rules" and honor the Commission's deadline.

The classic advice for sliding off the horns of a dilemma is to reject *both* alternatives and develop a *third* option. In this case, we believe the third option is a 1-month Extension of the previously applicable Written Comments deadline and Reply Comments deadline. This will enable SBC Communications, Verizon and others to win unambiguous consideration of their views -- *without* penalizing those who did not comment solely because they were honoring the Commission's rules.

(2) As an additional complicating factor, we believe that some hard copy Written Comments might have been embargoed due to anthrax containment procedures. We know that our own hard copy Written Comments -- in Dockets reviewing current FCC limits on cable ownership and mass media cross-ownership -- have been embargoed by efforts to

"quarantine" all mail that might have been contaminated, or cross-contaminated, with anthrax.

In our own case, inquiries to the Commission made us aware of the problem, which we resolved by re-filing the hard copies electronically. However, other commenting parties, in other Dockets and/or this one, may be caught in the mail embargo but unaware of the situation *and/or* unable to access the electronic filing system. For the sake of such *potentially* embargoed commentors, it is reasonable to allow another month for their hard copy Written Comments to "clear" the embargo.

Misunderstandings Of What Our Proposed Rule Proposes

Some (though not all) commenting parties appear to be unaware of details in our proposed rule which make it less sweeping, and/or less costly, than these commentors appear to believe. We are aware that the Petition For Rulemaking in RM-10330 is longer than *some* other Petitions which have been submitted to the Commission, with more "fine print" than *some* other proposed rules, for which reason even careful readers may have missed some key aspects. However, these key aspects are indeed present -- and they should be taken clearly into account in any serious effort to assess our proposal.

In particular, we stress 4 key characteristics which some commentors appear to have overlooked.

(1) There is very little required retrofitting of equipment which is already in use.

As a general rule, *existing* electronic equipment is not subject to retrofitting under the proposed rule. The proposal is mostly prospective in its application, focusing primarily upon electronics equipment that will be installed *in the future.*

The *only* exceptions are:

(a) "Life or death" electronic equipment, such as air traffic communications, where temporary and/or permanent disruption of operation could be fatal or at least grievously harmful;

(b) Electronic equipment that is based in (or passes through) outer space and/or the extreme upper atmosphere, where EMP waves may be more intense due to vacuum or near-vacuum conditions (although delays in retrofitting compliance are allowed where access to the equipment is a problem);

And/or

(c) Electronic equipment whose undisrupted performance is essential for protecting the national security, and/or the military personnel, of the United States and/or its allies.

In short, retrofitting is required *only* for equipment that is *vital* for preserving lives and/or health of civilians … and/or *vital* for protecting national security and military personnel … and/or unusually vulnerable due to transitory or permanent operation in a vacuum or near-vaccuum environment. No civilian "boomboxes" are going to be sent back to the factory for retrofitting, but avionics components or hospital communications might have to be.

(2) Even with respect to newly installed equipment, not all electronic equipment is covered by the proposed rule. The proposed rule in RM-10330 contains a clear "luxury" exemption for any newly installed equipment which is not clearly necessary for maintaining America's basic infrastructure and/or way of life.

Unlike *existing* civilian radios, most or all newly manufactured radios probably *would* have to be shielded against EMP -- because effective mass communications are vital for dealing with, and for recovering from, almost any kind of disaster. On the other hand, it is our expectation that "luxury equipment" exemptions would be sought, *and* obtained, for products such as baby monitors and electric garage door openers. It is difficult for us to imagine *anyone* asserting, with a straight face, that these devices are essential for the preservation of civilization.

(3) The costs of EMP shielding, under the proposed rule in RM-10330, would not be as high as some commentors appear to believe. We say this because, as we have just noted, the proposed rule does not *begin* to cover all newly installed and/or activated electronics equipment, let alone all of the electronics equipment which is already in use. Therefore, fears of high costs will be seriously overstated to the extent they are based on the assumption of *total* coverage of electronics equipment in the United States.

In addition, some commentors appear to have overlooked the "cost caps" within the proposed rule. For *most* of the electronics equipment which is covered, EMP shielding costs are capped at 5% of the production cost. That is: If meeting the EMP shielding standards completely is going to raise product prices by 7%, only the amount of shielding that can be provided for a 5% cost increase will be required.

We also note that the cost cap is a ceiling, not a floor. If the applicable standard can be met at a cost lower than the cap allows, the party that is doing the shielding can pocket the difference.

To make the same point differently: EMP shielding costs, *for those subsets of electronics equipment which are actually covered,* are barred from rising above the *lower* of:

(a) The applicable cost cap;

Or

(b) The actual cost of the EMP shielding.

In *most* cases, the applicable cost cap for civilian equipment will be 5%.

(3) The proposed rule embodies PERFORMANCE standards, not prescriptive standards. It reflects one of two basic alternatives for establishing regulatory standards.

The more traditional approach is the use of *prescription* standards, aka "cookbook" standards. For example: "In shielding new television sets against the effects of a possible Electromagnetic Pulse, copper shielding of *x* thickness shall be applied to the specific components listed in Table *y* … "

The more modern approach is the one we have chosen to employ: the use of *performance* standards. Such standards set a *goal,* but do not dictate *how* that goal must be achieved. For example: "In shielding new television sets against the effects of a possible Electromagnetic Pulse, the television set as a system shall be shielded to the extent that, if tested randomly, the television set as a unit will demonstrate the ability to function without impairment or interruption following an Electromagnetic Pulse of 100,000 volts per meter."

As a general rule, we favor performance standards over prescriptive standards because they leave room for more innovation (and perhaps more cost reduction) by complying parties. We recognize, of course, that there must be periodic random testing and monitoring to insure that the minimum desired performance is indeed being attained -- *and* maintained over time. Still, we believe this approach generally allows for greater technical progress, *and* more cost-effective investment, than a "cookbook" approach can do.

To translate this point into a framework of political philosophy:

Performance standards allow the public interest to determine the *goal* of particular regulations, while allowing the marketplace to determine the *methods* for achieving that goal cost-effectively. In this sense, performance standards combine the best of government regulatory thinking with the best of "laissez-faire" thinking.

The relevance of performance standards to our current Reply Comments is this:

It doesn't really matter, at *this* point, whether copper shielding is a better route to EMP protection than some classified military techniques we have not yet been allowed to learn. Nor does it really matter, at *this* point, whether or not retrofitting of existing Amateur Radio equipment should or should not be required. Our performance standard approach allows these determinations to be made "down the road", as specific equipment and technologies are evaluated in light of the *performance goals* in the proposed rule.

Is there a better route to EMP protection than copper shielding? If there *is* (and it's not kept secret by the military), the marketplace will find it and choose it. The marketplace will select whatever technology reaches the performance standard of 100,000 volts per meter (or whatever alternative performance standard may be applicable) at the lowest cost for that particular situation. The FCC does not have to choose the technology. Rather, the FCC's job is to choose, *and enforce,* the performance standard which must be met by whichever technology is used.

Should existing Amateur Radio equipment be retrofitted? Here, the FCC *must* make the decision -- but it does not have to make the decision *now.* For *now,* it needs only decide whether *to seek public input* (through a Notice of Proposed Rulemaking) on what the performance standard(s) for equipment retrofitting should be. *Later,* as public comments on

the proposed rule are received and reviewed by the Commission, and a final rule is fashioned, the Commission can make its final decision on what the retrofitting performance standard(s) should be. *Later still,* the Commission can apply whatever performance standard it chooses to the specific question of existing Amateur Radio equipment, deciding in light of specific facts on the record whether such equipment is indeed vital enough to merit the special protection of retrofitting.

If the Commission prefers to adopt the more traditional approach of prescriptive aka "cookbook" standards, such a policy decision is obviously within the Commission's discretion. We believe, as a general proposition, that performance standards work best -- but reasonable, well-crafted prescriptive standards can work as well.

However, should a prescriptive standard approach be selected by the Commission, decisions on matters such as shielding technology and Amateur Radio equipment retrofitting would have to be made by the Commission during the process of *drafting* a final rule -- rather than being made primarily by the marketplace, and in limited cases by the Commission, during the process of *implementing* a final rule.

The Commission's choice between performance standards and prescriptive standards will affect *when* key implementation decisions are made and, to a more limited extent, *who* makes those decisions. However, the choice does *not* affect whether the Commission should proceed to issue a proposed rule.

Whatever the Commission's policy preferences might be, the obvious "next step" for the Commission is to gain additional information from interested parties -- and to do so by issuing a proposed rule that is specific enough to attract very specific input on key issues of implementation. Depending on the public comments which are received, the final rule

may or may not be notably different from the proposed rule -- but there will be no final rule at all unless *some* kind of proposed rule is issued first.

With nuclear weapons technology *and* missile technology continuing to spread through the world, and with relatively new *non-nuclear* EMP weaponry coming within the financial and intellectual reach of many groups and countries, we urge the Commission to defer those technical decisions that *can* be deferred -- and move ahead quickly with the abundantly justifiable decision to *start the process* of a rulemaking on EMP shielding.

The need for *some* kind of *civilian* EMP protection is clear. Delay is perilous.

Misunderstandings Of What The Current RM-10330 Proceedings Involve

As we have noted immediately above, the Commission is *not* currently seeking input on whether our proposed rule should be adopted immediately as a final rule, exactly as written. Rather, the Commission is seeking input on whether to proceed with issuance of our proposal -- with or without major modifications -- as a proposed rule.

In effect, the Commission is seeking input on whether to seek further input.

Some of the commenting parties do not appear to understand this point. They appear to view these RM-10330 proceedings as an "up or down" vote, with no opportunity for amendments or other refinements, on whether to adopt our proposed rule as a final rule. Based on this somewhat understandable misunderstanding, some commentors have focused upon one or two asserted flaws in our proposal as grounds for the Commission to refrain from taking *any* action on *any* kind of proposed rule to combat EMP.

Personally, we are willing and able to stand corrected, when and if a commentor persuades us that modification of our proposal is necessary and/or advisable. We have yet

to encounter a reason for modifying our particular proposal -- but we acknowledge that we might encounter one or more compelling, constructive criticisms in the future.

We are *not* the ones in the driver's seat, however. The Commission is making the decisions. If *the Commission* encounters one or more good reasons to modify our proposal, in one or more areas, it has unfettered authority to modify our proposal or even -- God forbid!! -- to "start from scratch" with its own proposal.

In short: We urge the Commission not to "throw the baby out with the bathwater". *Change* our proposal if you wish, and *replace* it if you must, but keep *the process of rulemaking* in motion.

EMP Shielding Costs In Perspective

As we noted earlier, some commentors appear to be over-estimating the costs of our proposed level of civilian EMP shielding, due to: (a) the incorrect perception that *all* electronics equipment in the United States would have to be shielded, including existing equipment that would have to be retrofitted; and/or (b) an apparent tendency to overlook, and/or discount, our proposed "caps" on compliance costs.

Having said this, however, we do not contend that adequate EMP shielding for the civilian economy and infrastructure will be cheap. Rather, we contend that the costs of EMP shielding compliance, while significant, will be neither prohibitive *or* unreasonable.

We urge the Commission to consider these possible compliance costs in perspective. EMP shielding compliance costs, during the 5-year phased implementation of the RM-10330 proposed rule, would have to reach $10 billion before they would exceed 10% of the minimum President Bush is now willing to spend on a *light* duty Ballistic Missile

Defense. Compliance costs would have to reach $15 billion before they would exceed *1%* of what Congress plans to spend on national defense in general over the next 5 years.

Further, compliance costs would have to reach *$300 billion* before they would exceed *one tenth of 1%* of the total Gross Domestic Product over the next 5 years. Yet there might not be much of a GDP at all, in 5 years, if a mid-continent, high-altitude thermonuclear burst bathes a totally unshielded civilian infrastructure and economy in an Electromagnetic Pulse.

Please do not misunderstand our point here. Both of us support a strong national defense, at current budget levels or perhaps even higher, and one of us supports the concept of a light duty Ballistic Missile Defense as well. We believe, however, that *protecting* civilians at home can be as important as *projecting* power abroad. EMP shielding can be part of restoring a better balance between defensive capabilities and offensive capabilities.

We also believe that a 5-year projected GDP of $30 trillion doesn't just happen. This kind of security and prosperity has to be *consciously* sought by a nation, *consciously* nurtured by a nation and *consciously* protected by a nation. Whether the 5-year cost of EMP shielding compliance will be $100 million, $1 billion or $10 billion, a phased and reasonable EMP shielding mandate is still "insurance" purchased for our civilian economy at the cost of a fraction of a fraction of a penny on the dollar.

RESPONSES TO SPECIFIC COMMENTS BY SPECIFIC COMMENTORS

Alliance for Telecommunications Industry Solutions (ATIS)

The Alliance for Telecommunications Industry Solutions submitted a Statement for the Record stating that several standards related to EMP were developed in response to a request by the National Security Telecommunications Advisory Committee (NSTAC).

We had been unaware of any action by NSTAC at all – and we thank ATIS for bringing these NSTAC standards to the attention of the Commission, ourselves and other interested parties.

We cannot help but notice, however, that NSTAC has hardly pursued this matter with much sense of urgency. According to the ATIS Written Comments, the initial request for action on electromagnetic pulse (EMP) came from the Department of Defense in 1985, but the NSTAC's standards for high-altitude electromagnetic pulse (HEMP) shielding were not issued until 1994. As for the related NSTAC standards which ATIS references, they were also issued at various points during the 1990's. This leisurely pace does not inspire confidence in either NSTAC's ability to act quickly on EMP or its willingness to take the threat of EMP seriously.

It also appears that the NSTAC standards for HEMP shielding: (a) apply to only a relative handful of facilities; and (b) even in those cases, may serve as only voluntary standards, rather than binding requirements. Although the limited scope of the standards is clear, while the legal obligation to comply with them is merely ambiguous, NSTAC's synopsis of the HEMP standards mentions their possible use for compliance with possible government contracts. This reference suggests that, in at least some cases, the standards my be binding only when a specific contract requires it.

Our questions are these.

- How many facilities have implemented these EMP-related standards at this time?
- Are standards that are directed primarily at telephone central offices adequate when the rest of the civilian communications infrastructure is unshielded?

- Are the standards sufficient to protect modern microprocessor components from EMP events and attacks? For example, modern microprocessors are more vulnerable to EMP events than the microprocessors of the early 1990s were.
- Are these nuclear-EMP-oriented standards adequate to protect against the different frequency distributions available from non-nuclear EMP sources? For example, non-nuclear EMP sources can be constructed to radiate in the microwave frequency bands, allowing the pulse to penetrate shielding designed for the lower frequency nuclear EMP.

We do not expect these questions to be answered in this exchange of Comments on RM-10330. Instead, the Commission should conduct a Notice of Proposed Rulemaking (NPRM) to investigate these vital issues in detail. While these reported standards may serve as a starting point for comprehensive EMP protection regulations, it is unlikely that shielding a few "critical" communications facilities will be adequate homeland defense against Electromagnetic Pulse attacks and/or other electromagnetic terrorism.

Comments from Michael Taylor, NCE

Mr. Taylor submitted the following brief comment to the FCC Electronic Comments Filing System on December 10, 2001:

"Bad Idea, The cost would be staggering. As an EMP Engineer with 20+ years of experience, I can say they have no idea what would be involved in achieving protection to a Compton event. This is evident by the comment regarding copper shielding. High performance EMP protection methodology is classified. Any diffusion of this information into the commercial market place does not serve the best interests of U.S. defense. Thank you for the opportunity to comment."

In our opinion, Mr. Taylor's view of EMP protection is dated and does not reflect the realities of the war on terrorism. During the Cold War, the nuclear forces of the United States deterred foreign aggression through the concept of Mutual Assured Destruction. In this situation, it would make more sense to reserve the best EMP protection technology for America's nuclear forces. In the new war on terrorism, nuclear deterrence has little role. Terrorists are not deterred by nuclear bombs because terrorists are not nation states like the Soviet Union. Terrorists will strike at *civilian* communications and electronics infrastructure using EMP. Therefore, most of the advanced EMP protection should be used in the civilian communications sector.

In addition, Mr. Taylor's assertion that we are ignorant of EMP technology is not correct. There are EMP experts who state that the standard concepts of conductive metal shielding and bypassing are useful against EMP. In this situation where experts disagree, the most constructive response is for an open discussion in a NPRM on the merits of the issue.

Also, his claim that all of the good protection is classified cannot be verified here. But we can confidently state that any policy that protects only military hardware while leaving the civilian system vulnerable is highly questionable. If a terrorist or rogue state EMP attack occurs, such a policy would be considered negligent and criminal action may be brought against the responsible policy makers.

Mr. Taylor refers to a "Compton event". This is high altitude EMP caused by a nuclear explosion. Our proposed standards are designed to deal with both nuclear explosions and with *non-nuclear* EMP attacks using devices such as flux compression generators (FCGs). The non-nuclear attacks will have generally lower electric and magnetic field strengths over shorter ranges than nuclear EMP attacks. In our view, the non-nuclear EMP

attacks are likely to be used by terrorists, while rogue states could conduct nuclear EMP attacks. Protecting civilian communications from both of these threats should be addressed by the Commission in a NPRM.

Comments from Roger V. Thompson

Mr. Roger V. Thomson submitted the following brief comment to the FCC Electronic Comment Filing System on December 12, 2001:

"Enhancement of existing electronic equipment as required by RM-10330 would be so difficult and expensive that we may as well call it impossible. The negative economic impact on individuals and businesses would be staggering."

We have carefully crafted our proposed regulations to limit or cap the expense required to comply with the EMP protection regulations. We are well aware that funds are limited and so we propose a percentage of total cost limit for EMP shielding.

An additional, supplemental option would be the mandated design of civilian communications equipment to be field repairable after an EMP attack or event. A field-repairable design, combined with reasonable EMP shielding, may be the best solution for many civilian applications where temporary interruption and/or impairment can be tolerated.

Comments from Cortland E. Richmond

In his comments submitted on December 14, 2001, Mr. Richmond states:

"Their lurid portrait of possible threats and consequences should not be allowed to detract from realization of the dependence our society places on electronics in communication and commerce. However, they ignore the normal, interaction between customers, vendors, and manufacturers to make products that work reliably."

We do not know if EMP is more or less lurid than other aspects of homeland defense, such as airplanes running into buildings, biological warfare scenarios, or hazardous chemicals being released by terrorists. All of these subjects seem to be basically lurid. Yet they need to be addressed as part of the war on terrorism.

EMP is not a part of the normal interaction within the communications industry and its customers. It is for this reason that we are proposing comprehensive EMP protection regulations. The marketplace alone is ill equipped to develop and maintain effective protective measures for this threat because there are no profits and/or convenience derived from establishing EMP protection. Yet EMP protection is a vital aspect of homeland defense. In this case, the marketplace does not incorporate public interest priorities.

Mr. Richmond also states that "What evidence exists, suggests that electronic equipment is not as vulnerable as the Petitioners portray." This conflicts directly with the comments of Mr. Michael Taylor to the effect that conductive shielding and bypassing are inadequate for protection from EMP. The existence of this type of *disagreement over the facts* of the situation argues strongly for an NPRM to determine the facts of EMP protection and to proceed with reasonable and affordable EMP protection.

Mr. Richmond's presents the concept of building-level protection, which has been used in some instances: "Countermeasures against the terrorist EMP device, or even a non-nuclear device delivered by a nation-state, may be more readily accomplished at the facility and building level, and at less cost, than hardening all equipment which might be placed in it." This is a reasonable trade-off question. Perhaps the telephone switches that are placed in a shielded building don't need to be shielded themselves. However, shielding buildings means that the EMP protection is limited to only a few central offices. Other equipment,

such as customer premise equipment, remains completely unshielded. It is quite clear that any communications network needs its endpoint customer premise equipment (and other equipment outside of the central offices) to be operating in order for the network itself to be useful.

Mr. Richmond attacks the credibility of one of our references by a "humorous" reference to some article about perpetual motion motors. This tone is not useful in a serious discussion about the homeland defense aspects of EMP. E-bombs, such as flux compression generators, have been discussed elsewhere in the literature.

Mr. Richmond says that "...Schellhardt and Leggett are perhaps overstating their case, and asking for more, sooner than a need can arise." Does this mean that the Commission should wait until after an EMP attack or attacks has occurred to move ahead with comprehensive regulations for EMP protection? We submit that proactive FCC work on EMP regulations is preferable -- indeed, urgent.

Comments from Dr. William A. Radasky

As we wrote this document, the Written Comments from Dr. William A. Radasky, of the International Eurotechnical Commission, were garbled and unreadable on the ECFS. This problem has just been corrected by the ECFS staff and corrected Comments have been posted. Dr. Radasky's Comments will be addressed in our next set of Reply Comments.

Use of the Brief Comment Mode in the Electronic Comment Filing System

The comments by Mr. Thompson and Mr. Taylor illustrate a problem with the brief comment mode of the Electronic Comment Filing System (ECFS). The brief comment mode requires very brief comments, while the public interest would be served if we had more information about their opinions. We have observed this problem in other FCC dockets as

well. The brief comments are not fleshed out enough to be as useful as they could otherwise be. Perhaps the design of the ECFS brief mode should be modified to encourage commentators to provide more details about their opinions.

Respectfully submitted,

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December 21, 2001

A copy of these reply comments has been sent by United States Postal Service first class mail to:

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We could not send service copies to Mr. Roger V. Thompson, Mr. Cortland E. Richmond and Mr. Michael Taylor because they did not provide postal addresses or email addresses with their comments.